

We Claim:

1. A black and white photothermographic material comprising a support and having on at least one side thereof, one or more thermally developable imaging layers comprising a binder and, in reactive association, a photosensitive silver halide, a non-photosensitive source of reducible silver ions, and a reducing agent composition,
wherein said photothermographic material, when imaged and heat-processed, has an image tone that is characterized such that the value for b^* at an optical density of 1.0 is greater than the value for b^* at D_{min} .
2. The photothermographic material of claim 1 wherein said one or more thermally developable imaging layers have a total absorbance of at least 0.6 at an exposure wavelength.
3. The photothermographic material of claim 1 wherein said one or more thermally developable imaging layers have a total absorbance of at least 1.0 at an exposure wavelength.
4. The photothermographic material of claim 1 wherein said silver halide has been chemically sensitized with a sulfur-containing chemical sensitizing compound.
5. The photothermographic material of claim 1, when imaged and heat-processed, has an image tone that is characterized as having a b^* value at D_{min} that is greater than -13.
6. The photothermographic material of claim 1, when imaged and heat-processed, has an image tone wherein the value for b^* at an optical density of 1.0 is greater than the value for b^* at D_{min} by at least 0.3.

7. The photothermographic material of claim 1 wherein the photothermographic material exhibits a hue angle, h_{ab} , such that $220^\circ < h_{ab} < 260^\circ$, where h_{ab} is the hue angle, $h_{ab} = \arctan(b^*/a^*)$, as measured at an optical density of 1.0, and as defined in the CIELAB color system.

8. The photothermographic material of claim 1 further comprising a blue dye in the support or in one or more layers, or in both the support and one or more layers.

9. A method of forming a visible image comprising:

- A) imagewise exposing the photothermographic material of claim 1 to electromagnetic radiation to form a latent image, and
- B) simultaneously or sequentially, heating said exposed photothermographic material to develop said latent image into a visible image.

10. The method of claim 9 wherein said photothermographic material has a transparent support and said method further comprises:

- C) positioning said exposed and heat-developed photothermographic material between a source of imaging radiation and an imageable material that is sensitive to said imaging radiation, and
- D) exposing said imageable material to said imaging radiation through the visible image in said exposed and heat-developed photothermographic material to provide an image in said imageable material.

11. The method of claim 9 wherein said imagewise exposed and heat-developed photothermographic material is used for a medical diagnosis.

12. The method of claim 9 wherein said imagewise exposure is carried out using an image or images obtained by computed radiographic means, digital radiographic means, or digitally scanning a radiographic image in a wet-processed radiographic film.